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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/633,470	07/31/2003	Robert Kincaid	10020348-1	5138

7590 09/18/2007  
AGILENT TECHNOLOGIES, INC.  
Legal Department, DL 429  
Intellectual Property Administration  
P.O. Box 7599  
Loveland, CO 80537-0599

EXAMINER
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BRUSCA, JOHN S

ART UNIT	PAPER NUMBER
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1631

MAIL DATE	DELIVERY MODE
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09/18/2007

PAPER

**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

<b>Office Action Summary</b>	<b>Application No.</b> 10/633,470	<b>Applicant(s)</b> KINCAID ET AL.	
	<b>Examiner</b> John S. Brusca	<b>Art Unit</b> 1631	

**-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --**

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 28 June 2007.
- 2a) ☐ This action is **FINAL**.                      2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1-7 and 9 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-7, 9 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All    b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- |  |   |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)          | 4) <input type="checkbox"/> Interview Summary (PTO-413)           |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____                                      |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)          | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date _____  | 6) <input type="checkbox"/> Other: _____                          |

## **DETAILED ACTION**

### ***Continued Examination Under 37 CFR 1.114***

1. A request for continued examination under 37 CFR 1.114, including the fee set forth in 37 CFR 1.17(e), was filed in this application after final rejection. Since this application is eligible for continued examination under 37 CFR 1.114, and the fee set forth in 37 CFR 1.17(e) has been timely paid, the finality of the previous Office action has been withdrawn pursuant to 37 CFR 1.114. Applicant's submission filed on 28 June 2007 has been entered.
2. It is brought to the applicant's attention that the amendment filed after final on 25 April 2007 was not entered, as indicated in the Advisory Action mailed 04 May 2007. It is Office policy that amendments under 37 CFR 1.121 are made relative to the last entered set of claims, that is, the pending claims at time of amendment. The amendment filed with the RCE request on 28 June 2007 contains amendments to the claims relative to the unentered amendment filed 25 April 2007. In the RCE request filed 28 June 2007, the applicants have also requested entry of both the amendment filed on 25 April 2007 and 28 June 2007. Entry of after final amendments after filing an RCE can be problematical (see MPEP 706.07(h) III D). Normal Office policy is to enter all after final amendments and also any amendments accompanying the RCE submission unless requested otherwise by the applicants. Therefore, for the purpose of examination the most recent claim set filed with the amendment filed 28 June 2007 will be considered to be the claims under examination.

### ***Claim Rejections - 35 USC § 112***

3. The rejection of claims 1-7 and 9 under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which

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applicant regards as the invention in the Office action mailed 28 February 2007 is withdrawn in view of the amendment filed 28 June 2007 with the exception of the rejection reiterated below.

4. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

5. Claims 1-7 and 9 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Claims 1-7 and 9 are indefinite for recitation of the term "logic" in claims 1, 6, and 9 because it is not clear if the term refers to guidance or computer executable instructions.

Claim 9 is indefinite because it is not clear what is meant by the phrase "catalog microarray." The phrase is not defined in the specification, and it might be interpreted to be either data, or an apparatus that is a microarray. It is further indefinite because it is not clear how a catalog microarray differs from a microarray.

Claim 9 recites the limitation "the catalog microarray" in line 2. There is insufficient antecedent basis for this limitation in the claim.

***Claim Rejections - 35 USC § 101***

6. The rejection of claims 1-6, and 9 under 35 U.S.C. 101 because the claimed invention is directed to non-statutory subject matter in the Office action mailed 28 February 2007 is withdrawn in view of the amendment filed 28 June 2007.

***Claim Rejections - 35 USC § 103***

7. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

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(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

8. This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

9. Claims 1-6 are rejected under 35 U.S.C. 103(a) as being unpatentable over Taylor in view of Nova et al.

The claims are drawn to a virtualizing microarray system comprising a microarray comprising a memory element that contains data of the microarray features and instructions that generate data of a subset of the data of the microarray features. In some embodiments the virtual microarray comprises data concerning the position of the elements of the microarray, the type of probe in the microarray, the target molecule of the probe of the microarray, and the function, process, and cellular component of the element of the microarray. In some embodiments the virtual microarray is made by removing features of the microarray. In some embodiments the virtual microarray comprises data concerning molecules whose synthesis is directed by the molecule that binds to a probe in the microarray.

Taylor shows a virtual microarray in page 1 in which correspondence between positions of a physical microarray and the virtual microarray are known. Taylor shows deletion of data

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from the microarray when creating the virtual microarray in page 2, paragraphs 28 and 29, and page 3 paragraph 34. Taylor shows virtual microarrays that comprise data related to elements of the microarray on pages 6-9, including information about the probe, and the gene and tissue from which it was derived. Taylor does not show a memory element that contains data of the microarray features and instructions that generate data of a subset of the data of the microarray features. Taylor does not show data concerning molecules whose synthesis is directed by the molecule that binds to a probe in the microarray.

Nova et al. shows in the abstract an array comprising a memory comprising data. In columns 6 and 8 Nova et al. shows that the array memory may comprise data of the nucleic acids in the array. In column 13, Nova et al. shows that the memory may contain data of molecules that are synthesized by the array. In columns 13-14 Nova et al. shows that arrays with memory are useful to track or identify molecules that interact with the array in various types of assays.

It would have been obvious to a person of ordinary skill in the art at the time the invention was made to modify the virtual array of Taylor by use of the array with memory of Nova et al. because Nova et al. shows that their array with memory is useful to track or identify molecules that interact with the array. It would have been further obvious to include instructions in the memory of the array to use subsets of the array because Taylor shows instances in which only a portion of the data is of interest and recording instructions to use portions of an array for different purposes would allow the virtual array of Taylor to select the data of the array that is of interest.

10. Claims 1 and 7 are rejected under 35 U.S.C. 103(a) as being unpatentable over Taylor in view of Nova et al. as applied to claims 1-6 above, and further in view of Ramdas et al.

The claims are drawn to a virtual microarray system comprising a subset of data of a microarray. In some embodiments the virtual microarray is made by a scanner, a data processing system, or a visualization system.

Taylor in view of Nova et al. as applied to claims 1-6 above does not show a virtual microarray made by a scanner and a data processing and visualization system.

Ramdas et al. shows three systems that allow for automated analysis of microarrays that comprise scanners and computer controlled visualization systems in the abstract and throughout. Ramdas et al. conclude on page 552 that all three systems provide useful and comparable outputs of data from a microarray.

It would have been obvious to a person of ordinary skill in the art at the time the invention was made to modify the method of Taylor in view of Nova et al. as applied to claims 1-6 above by use of any of the scanners of Ramdas et al. because Ramdas et al. shows that the scanners allow for automation and useful determinations of the data in a microarray.

### ***Conclusion***

11. Any inquiry concerning this communication or earlier communications from the examiner should be directed to John S. Brusca whose telephone number is 571 272-0714. The examiner can normally be reached on M-F 8:30 AM - 5:00 PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Marjorie A. Moran can be reached on 571-272-0720. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/John S. Brusca/  
Primary Examiner  
Art Unit 1631

jsb